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SEFCHECK, GREGORY B

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	Application No. ⬤ 09/697,730	Applicant(s) CASSIDAY ET AL.
	Examiner Gregory B Sefcheck	Art Unit 2662

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-30_ is/are pending in the application.

    4a) Of the above claim(s) _1-17, 29 and 30_ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _18-28_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) _1-30_ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _25 October 2000_ is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

    a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _4_ .

4)☐ Interview Summary (PTO-413) Paper No(s). _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: .

DETAILED ACTION

Election/Restrictions

1.   Restriction to one of the following inventions is required under 35 U.S.C. 121:

I.   Claims 1-10, drawn to "Using synchronization information contained in a

frame", classified in class 370, subclass 509

II.   Claims 11-17, drawn to "Path Check", classified in class 370, subclass

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III.   Claims 18-28, drawn to "Queuing arrangement", classified in class 370,

subclass 412

IV.   Claims 29-30, drawn to "Signaling", classified in class 370, subclass 522

2.   Inventions Group I-IV are related as subcombinations disclosed as usable

together in a single combination. The subcombinations are distinct from each other if

they are shown to be separately usable.

In the instant case, the invention of Group I shows a method of encoding framing

data in packets of variable length. The invention of Group II shows a method of

calibrating a link between two nodes by comparing multiple counter values. The

invention of Group III shows a method and node used in an interconnect link system for

routing received data by examining the received data packet for categorical bits and

sorting the data through an arrangement of buffers. The invention of Group IV shows a

method and interconnect link for communicating user data and control data between nodes.

The calibrating method of Group II, the method and node of Group III, and the method and interconnect link of Group IV can all be performed with data of any type, such as a SONET payload, where the framing data is not encoded as shown in the invention of Group I.

Similarly, the encoding method of Group I, the method and node of Group III, and the method and interconnect link of Group IV can all be performed without utilizing the calibrating method of Group II, such as in ATM systems, where data calibration can be performed in the header of the received data.

Furthermore, the encoding method of Group I, the calibrating method of Group II, and the method and interconnect link of Group IV can all be performed without utilizing the method and node of Group III, such as in many voice communication systems, where link calibration, data encoding and node interconnecting is done without utilizing a buffering arrangement after examining and sorting the received data.

Finally, the encoding method of Group I, the calibrating method of Group II, and the method and node of Group III can all be performed without utilizing the method and interconnect link of Group IV, such as in SS7 networks, where control data is communicated between nodes independent from the user data.   See MPEP § 806.05(d).

3.   Because these inventions are distinct for the reasons given above and have

acquired a separate status in the art as shown by their different classification, restriction

for examination purposes as indicated is proper.

4.   During a telephone conversation with Steven Beyer on 1/12/04 a provisional

election was made with traverse to prosecute the invention of Group III, claims 18-28.

Affirmation of this election must be made by applicant in replying to this Office action.

Claims 1-17 and 29-30 are withdrawn from further consideration by the examiner, 37

CFR 1.142(b), as being drawn to a non-elected invention.

5.   Applicant is reminded that upon the cancellation of claims to a non-elected

invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one

or more of the currently named inventors is no longer an inventor of at least one claim

remaining in the application. Any amendment of inventorship must be accompanied by

a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Drawings

6.   The drawings are objected to because Figs. 9, 10, and 11A/B are not of

acceptable quality. The hand drawn elements and lines make it hard to follow the

description as disclosed. A proposed drawing correction or corrected drawings are

required in reply to the Office action to avoid abandonment of the application. The

objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

7.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of
> making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the
> art to which it pertains, or with which it is most nearly connected, to make and use the same and shall
> set forth the best mode contemplated by the inventor of carrying out his invention.

8.   Claim 19 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply

with the enablement requirement. The claim(s) contains subject matter that was not

described in the specification in such a way as to enable one skilled in the art to which it

pertains, or with which it is most nearly connected, to make and/or use the invention.

-     In regards to Claim 19,

The specification does not adequately describe how the stripe bit is used for

inverting a portion of the plurality of bits of a data packet. The stripe bit as disclosed

indicates whether a data packet's destination address is odd or even based on whether

the stripe bit is 1 or 0.

Claim Rejections - 35 USC § 102

9.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10.   Claims 18, 20-23, 25, 27, and 28 are rejected under 35 U.S.C. 102(e) as being

anticpated by Suzuki (US006625160B1).

-     In regards to Claim 18 and 23,

Suzuki discloses a method of routing data received in an interconnect node of a

data communication system (Col. 1, lines 37-63; claim 23 – method of routing data

received in a node).

Referring to Figs. 5, Suzuki shows data packets received on input port 500.

Information in the header of each data packet is examined at mapper 506 in order to

sort the data packet to its appropriate buffer 516/518 (Col. 8, lines 52-62; claim 18 –

node in interconnect link system having first/second buffers for receiving first/second

data segments passing a first/second criteria on a predetermined one or more bits for

the first/second segments; claim 23 – examining data based on one or more categorical

bits in the data packet; claim 23 – sorting the data to one of a plurality of buffers based

on the categorical bits in the data packet.

The packets in buffers 516/518 can then be input to the corresponding crossbar

scheduler 528/530 for transmission onto output 512/514, such that data packets in

buffer 516 can be accessed independently and simultaneously with data packets in

buffer 518 (Col. 6, lines 30-35; Col. 10, lines 25-29; claim 18 – node in interconnect link

system having first/second crossbar for receiving the first/second data segments from

the first/second buffer such that the first/second data segments are routed to one or

more transmitters in on clock cycle; claim 23 – inputting the data to one or more

crossbars corresponding to buffers; claim 23 – routing the data to a transmitter such

that two packets can be processed by the node in one clock cycle).

-   In regards to Claim 20, 22 and 25,

Suzuki discloses a method of routing data received in an interconnect node of a

data communication system that covers all limitations of the parent claim.

Suzuki shows that the receiver (Fig. 5, 506) is capable of sorting multiple data

segments into the receiver's first or second buffers 516-518 (claim 22 – first and second

buffers are in the receiver) based on the information contained in the header of the

packet meeting a first or second criteria (Col. 8, lines 55-60; claim 20 – receiver capable

of sorting a plurality of data segments based on the predetermined one or more bits in a

data segment; claim 25 – sorting the data includes routing the data packet to a first or

second buffer if the categorical bits meet a first or second criteria).

- In regards to Claim 21,

Suzuki discloses a method of routing data received in an interconnect node of a

data communication system that covers all limitations of the parent claim.

Suzuki shows that the transmitter (Fig. 5, 528-530) contains a scheduler (arbiter)

to decide which data segment to transmit (Col. 9, lines 9-15; claim 21 – a transmitter

having an arbitrator to decide which data segment to transmit).

- In regards to Claim 27,

Suzuki discloses a method of routing data received in an interconnect node of a

data communication system that covers all limitations of the parent claim.

Referring to Fig. 5, Suzuki shows that inputting the data to the crossbar

schedulers 528-530 routes the data packet to transmission lines 512-514 (claim 27 –

inputting the data to crossbars comprises routing the data packet to a transmitter).

- In regards to Claim 28,

Suzuki discloses a method of routing data received in an interconnect node of a

data communication system that covers all limitations of the parent claim.

Suzuki shows that the crossbar schedulers 528-530 maintain the order of

transmission of data from their associated queues (Col. 9, lines 9-15). This can be

done in such a way as to maintain the order of sequential data packets from the input,

through the buffers, to output (Col. 4, lines 10-20; claim 28 – maintaining the order of

sequential data packets passing through one of the plurality of buffers).

Claim Rejections - 35 USC § 103

11.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

12.   Claims 19, 24, and 26 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Suzuki in view of Kessler (US006567900B1).

-     In regards to Claim 19, 24, and 26,

Suzuki discloses a method of routing data received in an interconnect node of a

data communication system that covers all limitations of the parent claims. Suzuki

shows sorting received data packets based on information contained in the header of

the packet.

Suzuki does not explicitly show examining the received data to determine if the

stripe bit is 0 or 1.

Kessler discloses address interleaving for routing data in a computer system.

Kessler shows accessing an address based on determining if the stripe bit is 0 or 1

(Col. 13-14, lines 60-17; claim 19 – predetermined one or more bits being a stripe bit

used for inverting a portion of the data packet's plurality of bits; claim 24 – examining

the data includes determining where a stripe bit is 0 or 1; claim 26 – first/second criteria

is that one or more of the categorical bits = 0/1).

It would have been obvious to one of ordinary skill in the art to modify the method of Suzuki by determining the value of the stripe bit, as taught by Kessler, for use in sorting the received data. In this way, the received data can be sorted for transmission based on the address carried in the packet header by only examining the contents of the stripe bit, thus enabling faster and more efficient sorting of the data for transmission.

Conclusion

13.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:
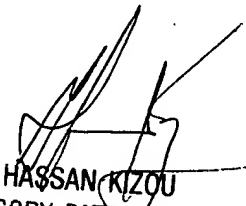
- Krishna et al. (US 2001/0050916A1) discloses a method and apparatus for providing work-conserving properties in a non-blocking switch with limited speedup independent of switch size

- Kessler (US006567900B1) discloses efficient address interleaving with simultaneous multiple locality options

- Sui et al. (US006359861B1) discloses a method for scheduling transmissions in a buffered switch

- Charney et al. (US006072772A) discloses a method for providing bandwidth and delay guarantees in a crossbar switch with speedup

- McClure et al. (US005867663A) discloses a method and system for controlling network service parameters in a cell-based communications network

- Fichou et al. (US005790522A) discloses a method and system for performing traffic congestion control in a data communication network

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory B Sefcheck whose telephone number is 703-305-0633. The examiner can normally be reached on 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 703-305-4744. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

GBS
1-27-2004

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